

Frequency dispersion of small-amplitude capillary waves in viscous fluids (Supporting Data)

Fabian Denner*

Department of Mechanical Engineering, Imperial College London
Exhibition Road, London, SW7 2AZ, United Kingdom

19th July 2016

1 Matlab script for analytical initial-value solution

The attached file `capillaryWaveProsperetti1981.m` is a Matlab script to solve the analytical initial value solution proposed by [1] for small-amplitude capillary waves for single-phase cases (*i.e.* a single fluid with a free surface) and two-phase cases in which both phases have the same kinematic viscosity ν .

2 Raw data

The file `capillaryWavesDennerPRE2016_Cases.ods` is a spreadsheet file in `OpenOffice` format with raw data of all considered cases in [2]. The spreadsheet contains the fluid properties as well as the all the AIVS and DNS results.

References

- [1] A. Prosperetti, Motion of two superposed viscous fluids, *Phys. Fluids* 24 (1981), 1217-1223.
- [2] F. Denner, Frequency dispersion of small-amplitude capillary waves in viscous fluids, *Phys. Rev. E* (2016).

*Email: f.denner09@imperial.ac.uk